



Impact of the Affordable Care Act on the New York Small Group and Non-Group Markets

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1. Executive Summary

The New York State Department of Financial Services commissioned this report to analyze the impact of the Affordable Care Act on New York's small group and non-group markets in 2014. This report includes a review of existing studies on this topic, as well as a description of Deloitte's own analysis using its "Lifestyle Based Analytics" model. Each of the studies discussed in this report uses different statistical and analytical approaches to try to predict potential impacts on relative morbidity levels, and each of these studies, including Deloitte's, has its limitations. The New York State Department of Financial Services does not endorse one study or methodology over another.

Background

In March 2010, the Patient Protection and Affordable Care Act (ACA)¹ was passed by Congress and signed into law. As a result, health insurance coverage will be extended to millions of currently uninsured Americans. Improved access to coverage will be accomplished through many provisions such as guaranteed issue, premium subsidies, tax penalties, Medicaid expansion, and the creation of Health Benefit Exchanges (Exchanges), which allow individuals and small employers to shop for and compare various health insurance plans. New York enacted significant health insurance reforms in the mid 1990's, many of which are similar to key provisions of the ACA reforms.

This report represents a summary of the key findings from previously published reports and studies of the uninsured, non-group, and small group markets. Additionally, to add another viewpoint from a unique analytical approach, Deloitte conducted a "Lifestyle Based Analytics" (LBA) analysis wherein we used non-claims based data sources to estimate future health risks and claims levels for the currently uninsured. The objective of this study is to provide a summary of the potential market shifts and potential impact on morbidity in the non-group and small group markets in the state of New York.

Some national estimates indicate that over 60%² of the uninsured population will gain health insurance coverage upon full implementation of the ACA. It has also been estimated in some studies that the national non-group cost per member per month will increase under ACA.³ However, it is very important to note that national findings do not necessarily serve as a relevant comparison point for specific states. Due to New York's previously enacted health insurance reform, it is of particular importance that this analysis focuses on New York state-specific reports and studies regarding the potential effects of the ACA on the state's health insurance markets.

Published Reports

Deloitte reviewed a number of published studies for this report. Most of these studies focused on national estimates of the number of uninsured gaining coverage when ACA is fully implemented. Fewer still addressed the cost implications of the uninsured once they gain

insurance. Of the studies reviewed, only two provided coverage and cost estimates of the uninsured specific to the state of New York. These two reports are *The Coverage and Cost Effects of Implementation of the Affordable Care Act in New York State*, Fredric Blavin, Linda J. Blumberg, Matthew Buettgens, Jeremy Roth, The Urban Institute, March 2012 and the *Cost of the Future Newly Insured under the Affordable Care Act*, Randy Haught, John Ahrens, FSA, MAAA, Society of Actuaries (SOA), March 2013. While useful for longer term planning, these two studies estimated results as of 2011 and 2014, respectively, assuming the full effect of the ACA implementation had been achieved by those dates.

Published estimates of New York's approximately 2.5 million individuals who currently do not have insurance coverage show that between 38.5% and 53.3% will gain coverage after ACA provisions are fully implemented.⁴ The majority of the newly insured are expected to gain coverage through a combination of the non-group insurance exchange and Medicaid/CHIP. In its March 2012 study, the Urban Institute estimates the non-group market to increase nearly 6 times from 145,000 to 860,000. Of the 860,000 covered lives, 557,000 (65%) are expected to obtain insurance through the non-group insurance exchange.⁵

The SOA estimates the New York non-group market will increase in size by approximately 2.6 times once fully implemented, with 84% of the post-ACA non-group market choosing to purchase coverage through the non-group insurance exchange. Note that while directionally similar, the pre and post-ACA populations for the non-group market differ significantly between the Urban Institute and the SOA studies. This difference appears to be mainly due to the inclusion of those covered by New York's Family Health Plus and Child Health Plus plans in the SOA population counts.

Cost and Coverage Impact Scenarios

The following tables are based on the underlying data from the SOA study. The SOA study, as does the Urban Institute study, focuses on the impact to insurance status and cost once the ACA provisions are fully implemented. However, for purposes of this study, we made some adjustments to the results to take into account that not all provisions of the ACA will take full effect in 2014. We also developed several additional scenarios regarding the movement of the uninsured under ACA in 2014. We used the SOA's data as the basis for this report because it provided the greatest level of detail.

The Baseline Scenario shows the estimated number of uninsured gaining coverage through the non-group and small group markets under a fully implemented scenario. The pre-ACA figure of 450,240 in the non-group category and 2,319,799 in the small employer category are higher than that estimated by the New York Department of Financial Services (DFS). The difference is assumed to be mostly due to the inclusion of the FHP and CHP populations in the non-group category and a different counting methodology in the small group category. Based on DFS reports, the number of current non-group enrollees is closer to 155,000 and small group enrollment is closer to 1.5 million.

In the Adjusted Baseline Scenario, the SOA's non-group and small group figures were adjusted to reflect DFS's pre-ACA enrollment estimates. Additionally, the basis for the morbidity calculations were modified in the Adjusted Baseline scenario to more closely reflect the differences in morbidity between the non-group and small group markets as measured by the

new Health and Human Services Hierarchical Condition Category (HHS-HCC) risk adjustment model based on data submitted by New York State insurance companies.

To examine the sensitivity of the morbidity changes under different population migration assumptions, three additional scenarios were developed. For Scenarios 1, 2, and 3, the sensitivity of the population migration and cost results was tested by assuming 10% of small group and 5% of large group employees would lose employer sponsored insurance post-ACA. Scenarios 1, 2, and 3 vary only in the assumed number of these employees taking up coverage in the non-group market. The assumptions used for Scenarios 1, 2, and 3 are 90%, 75%, and 50%, respectively. Additionally, in each scenario it is assumed that those who do not take-up coverage have morbidity that is 20% better than average and those taking up coverage have morbidity that is worse than average in order to balance back to the average in total. All three scenarios use the data from the Adjusted Baseline scenario as the foundation for the estimates.

Table 1. Market Populations by Scenarios

Market	Baseline*	Adj Baseline	Scenario 1	Scenario 2	Scenario 3
Uninsured					
Pre-ACA	2,496,983	2,496,983	2,496,983	2,496,983	2,496,983
Post-ACA (2014)	1,165,404	1,159,386	1,211,667	1,290,088	1,420,790
% Change in Population	-53.3%	-53.6%	-51.5%	-48.3%	-43.1%
Non-Group					
Pre-ACA	450,240	154,565	154,565	154,565	154,565
Post-ACA (2014)	1,615,925	1,322,767	1,793,294	1,714,873	1,584,171
% Change in Population	258.9%	755.8%	1060.2%	1009.5%	924.9%
Small Group**					
Pre-ACA	2,319,799	1,525,091	1,525,091	1,525,091	1,525,091
Post-ACA (2014)	2,464,612	1,714,198	1,542,778	1,542,778	1,542,778
% Change in Population	6.2%	12.4%	1.2%	1.2%	1.2%

Source: Society of Actuaries, "Cost of the Future Newly Insured Under the Affordable Care Act (ACA)", Appendix C, March 2013.

* Baseline scenario uses the SOA Elasticity model results

** Pre and Post ACA Small Groups are defined as having (2-50) members. Deloitte made adjustments to reflect this

Both the Urban Institute and SOA studies estimate that non-group costs per capita in New York are expected to decrease post-ACA compared to pre-ACA. For Table 2A below, we show the SOA's baseline "Elasticity Model" estimate of the cost of total acute care spending as the change in expected morbidity using pre-ACA small group morbidity as the baseline. As used in this report, "morbidity" refers to the relative underlying health status of an individual as measured by their expected healthcare cost compared to the average. Additionally, the morbidity factors shown do not include the impacts of reinsurance recoveries, trend, Essential Health Benefits, user fees, variations in administrative costs or other items unrelated to health status that may impact cost. As shown below, the average morbidity of the non-group population is estimated to decrease 13.9% on a per capita basis in 2014 for the state of New York under the Baseline scenario. The Urban Institute estimates a similar change in average monthly premiums for non-group coverage – a decrease of 13.5%.⁶ Note that, while not a direct comparison, Urban Institute's estimate of a lower non-group premium appears to support the SOA estimated cost decrease.

According to both the Urban Institute’s study and the SOA Baseline data, per capita small group costs are also estimated to decrease as a result of the ACA. The Urban Institute estimates average monthly premiums for small group to decrease by approximately 4.3% post-ACA, supporting the estimate of a 4.1% drop in average morbidity for small group coverage⁷ based on the SOA underlying data.

Changes in morbidity were also estimated for alternative scenarios. In the Adjusted Baseline Scenario, the pre-ACA morbidity factor in the non-group market is assumed to be significantly higher than the Baseline scenario based on results of the HHS-HCC risk adjustment model applied to New York data. Based on the assumptions used for the Adjusted Baseline scenario, non-group morbidity is estimated to decrease by 29% post-ACA compared to pre-ACA levels.

The estimated morbidity reduction is slightly less for each of the three other scenarios as fewer people are assumed to elect coverage and those not electing coverage are assumed to be healthier than average. Those that are losing group coverage are assumed to have the average morbidity of the group from whence they came. However, because of the assumption that the morbidity of those electing to remain uninsured stays at a constant 20% improvement over their previous morbidity level and because the proportion of those losing group coverage and then taking up non-group coverage varies across the three scenarios, the relative morbidity of those electing non-group coverage varies by scenario and contributes to the relative change in total cost.

Table 2A. Morbidity as a Factor of Average Monthly Small Group Health Insurance

Market	Baseline*	Adj Baseline	Scenario 1	Scenario 2	Scenario 3
Non-Group					
Pre-ACA	1.173	1.434	1.434	1.434	1.434
Post-ACA (2014)	1.010	1.017	1.026	1.035	1.053
% Change in Cost	-13.9%	-29.1%	-28.5%	-27.8%	-26.6%
Small Group**					
Pre-ACA	1.000	1.000	1.000	1.000	1.000
Post-ACA (2014)	0.959	0.948	0.948	0.948	0.948
% Change in Cost	-4.1%	-5.2%	-5.2%	-5.2%	-5.2%

Source: Society of Actuaries, “Cost of the Future Newly Insured Under the Affordable Care Act (ACA)”, Appendix C, March 2013.

Note: Factor calculated by dividing average monthly cost by average monthly cost of Pre-ACA Small Group Health Insurance - \$527.73

* Baseline scenario uses the SOA Elasticity model results

** Pre and Post ACA Small Groups are defined as having (2-50) members. Deloitte made adjustments to reflect this

Lifestyle Based Analytics

Lifestyle Based Analytics (LBA) is a health risk measurement tool which uses advanced analytics and consumer marketing datasets to estimate the health risks and subsequent future claim levels of individuals. It is based on the correlation between people’s activities, purchase behaviors and the many lifestyle based diseases. LBA has been used as a morbidity and mortality risk assessment tool in the insurance industry for over 10 years.

The LBA algorithms have been developed, tested, and validated using tens of millions of insurance members across the United States. These databases tie their actual claims data to

hundreds of lifestyle data elements derived through 3rd party data vendors. The resulting LBA algorithms are built using a portion of the health plan population (around 60% of the members) and then validated using the other 40%. Algorithm effectiveness is published based on the validation dataset only.

In addition, LBA algorithms have been tested on a year over year basis. Over the long term, LBA algorithms actually outperform the more traditional risk assessment techniques like claims based risk adjusters. Risk adjusters perform very well in the short term (1 to 2 years) but quickly drop off after that. For example, in a cardiovascular event the risk adjuster is good at predicting the costs associated with that event, but not as good at predicting additional events. Alternatively, LBA assessments perform better in the long run because an individual's poor lifestyle habits will eventually catch up with them.

Over the past 10 years, LBA algorithms have been used by health plans for group underwriting, product pricing development, wellness applications, case management, and even marketing and retention applications. They work best in situations where actual claims data is unknown (as in the case of new groups) or data is known but not significant. Over the last year, Deloitte has been actively using LBA to help multiple health plans prepare for the ACA by estimating the health risks of the new populations that will seek coverage post-ACA. In particular, Deloitte has used health plan data in multiple states to develop analytical algorithms that estimate health risks and define the uninsured population from the insured population (individual, small or large group).

For this particular project, Deloitte used its consolidated health plans data base to develop an uninsured/insured algorithm for the State of NY and to develop a health risk assessment algorithm. Using the Knowledge Base Marketing (KBM) commercial marketing dataset, we scored individually over 7 million adults between the ages of 18 and 64 and with household FPL's above 133%.

We then compared the average health risk scores of the uninsured to those of the insured population. The result was that the uninsured population has worse health risks in each age category. However, the demographic composition of the uninsured population is younger than the insured population, which is estimated to result in a reduction in morbidity. The combination of these two results in morbidity for the uninsured population that is approximately 3% less than the small group population when weighted based on the anticipated population.

In comparison, the underlying data in the SOA study indicates that the post-ACA per capita costs of those previously uninsured who purchase insurance post-ACA are approximately 23% less than the post-ACA small group per capita costs for the previously insured.

Please note that this analysis does *not* take into account any pent-up demand issues or any self-selection issues. Instead, it compares the overall health risks of the estimated currently uninsured population to the health risks of the currently insured population. Based on algorithms that we have built, these results are in line with what we would expect. As an example, we see higher rates of obesity and tobacco consumption in the lower income ranges than we do in higher income ranges, and the overall average income of the uninsured is less

than that of the insured. In the body of this report is a more detailed description of LBA, the approach we took for this project and the results of the LBA analysis.

Using the health cost relativity developed by the LBA analysis, the estimated change in average morbidity for each of the above scenarios was recalculated as shown in Table 2B below. While the LBA adjustment increases the morbidity of the newly insured, the estimated average morbidity for each market for each scenario still remains less than what it was estimated to be prior to ACA.

Table 2B. Morbidity as a Factor of Average Monthly Small Group Health Insurance

Market	Baseline*	Adj Baseline	Scenario 1	Scenario 2	Scenario 3
Non-Group					
Pre-ACA	1.173	1.434	1.434	1.434	1.434
Post-ACA (2014)	1.093	1.119	1.104	1.117	1.140
% Change in Cost	-6.8%	-22.0%	-23.0%	-22.1%	-20.5%
Small Group**					
Pre-ACA	1.000	1.000	1.000	1.000	1.000
Post-ACA (2014)	0.975	0.972	0.972	0.972	0.972
% Change in Cost	-2.5%	-2.8%	-2.8%	-2.8%	-2.8%

Source: Society of Actuaries, "Cost of the Future Newly Insured Under the Affordable Care Act (ACA)", Appendix C, March 2013.

Note: Factor calculated by dividing average monthly cost by average monthly cost of Pre-ACA Small Group Health Insurance - \$527.73

* Baseline scenario uses the SOA Elasticity model results

** Pre and Post ACA Small Groups are defined as having (2-50) members. Deloitte made adjustments to reflect this

Summary

The Affordable Care Act introduces significant changes to the country's health care system and is designed to extend insurance to millions of uninsured Americans. The state of New York enacted significant health care reform in the mid 1990's with goals and provisions that closely match those of the 2010 ACA. While the ACA may impact the New York health care system in unexpected ways, available analyses consistently find that the non-group markets will recognize a reduction in per capita costs as a result of the reforms. The impact on small group populations and average morbidity are less than for the non-group market, but still show a potential reduction in average morbidity compared with pre-ACA estimates. Even when adjusted for New York population estimates and health status, the estimated potential savings are significant across all scenarios examined. The major drivers of the changes in cost appear to be the number and the health status of those uninsured electing health insurance coverage.

2. Introduction

A. Objectives

The New York State Department of Financial Services (“DFS”) engaged Deloitte Consulting LLP (“Deloitte Consulting”) to conduct an analysis of the New York uninsured population and individual insurance market. The objective of this analysis is to provide a summary of the potential market shifts and potential morbidity impact of the Patient Protection and Affordable Care Act of 2010 (“ACA”)⁸ on the state of New York non-group and small group markets. This report analyzes and summarizes the key findings from previously published reports and studies of the uninsured, non-group, and small group markets. Additionally, to add another viewpoint from a unique analytical approach, Deloitte conducted a “Lifestyle Based Analytics” (LBA) analysis where we used non-claims based data sources to estimate future health risks and claims levels. The data used included third party individual person level demographic data, financial data, and lifestyle elements to estimate health risks of the uninsured and insured marketplaces in the entire state of NY adult population.

Each of the studies discussed in this report uses different statistical and analytical approaches to try to predict potential impacts on relative morbidity levels, and each of these studies, including Deloitte’s, has its limitations. The New York State Department of Financial Services does not endorse one study or methodology over another.

B. Background

The ACA was passed by Congress and signed into law in March 2010. Several provisions of the law are designed to extend health insurance coverage to millions of currently uninsured Americans. Improved access to coverage will be accomplished through several provisions including guaranteed issue, premium subsidies, tax penalties, Medicaid expansion and the creation of Health Benefit Exchanges (Exchanges), which allow individuals and small employers to shop for and compare various health insurance plans. Premium and cost-sharing subsidies will be offered to lower income individuals through the individual Exchange. In addition to subsidies, access to coverage will be increased through guaranteed issue of insurance regardless of pre-existing conditions or health status, and adjusted community rating. To further encourage coverage, individuals not covered by minimum requirements and employers not offering qualified insurance coverage, will be subject to a tax penalties. Additional provisions of the ACA include the option for states to expand Medicaid to all adults below 133 percent of FLP (effectively 138% with the 5% income disregard).

National estimates indicate that over 60%⁹ of the uninsured population will gain health insurance coverage upon implementation of the ACA. It has also been estimated in some studies that the national non-group cost per member per month will increase under ACA.¹⁰ It is very important to note that national findings do not serve as a relevant comparison point for specific states. Significant variation in the impact of the ACA, particularly on the change in

costs, is likely across states. Reasons for this variation could be a result of differing demographics and/or existing state legislation, such as community rating.

New York enacted significant health insurance reforms in the mid 1990's, many of which are similar to key provisions of the ACA reforms. The stated goals of the earlier reform are also similar to those of the ACA: "to facilitate access to health insurance by all New York residents who wish to obtain it directly or as members of small groups; and to promote competition among insurers and health maintenance organizations on the basis of efficient claims handling, ability to manage health care services, consumer satisfaction, and low administrative costs; rather than on the basis of differing underwriting and rating practices which allowed some insurers to exclude higher risk applicants from coverage and cause unaffordable premium rates to those unable to meet selection standards."¹¹ The primary provisions of the mid 1990's legislation that closely match those of the ACA include the following:

- *Pure Community Rating* – Age and gender rating bands do not exist
- *Open Enrollment* – Individuals are not bound by specific enrollment timeframes
- *Guarantee Issue* – Individuals cannot be denied coverage
- *Premium assistance for low-income individuals and families* – Healthy New York individual and small group members currently qualify for stop loss reimbursements

Due to New York's previously enacted health insurance reform, it is of particular importance that we analyze New York state-specific reports and studies to draw conclusions regarding the potential effects of the ACA on the uninsured population.

3. Findings from Research

A. Methodology

Deloitte reviewed available studies that examine the expected enrollment patterns and cost of the uninsured population in New York State and across the country. Upon thorough analysis of the studies, the study titled “Cost of the Newly Insured Under the Affordable Care Act (ACA)” conducted by the SOA in March 2013 was deemed the most relevant reference source for the objectives of this exercise due to its inclusion of detailed cost and population data. Two additional studies conducted by the Urban Institute in March 2012 and January 2013 were also identified as key sources for this study. The primary reason these sources were deemed key to the study is due to the amount of data and key cost metrics presented throughout the reports. The availability of such metrics allowed Deloitte to summarize and quantify the potential cost impact and health insurance market shift that is expected to result once the ACA is fully implemented. Most of the other studies available either lacked key cost metrics or were not specific to New York.

The following references and brief summaries represent the full list of studies analyzed for this report:

- **Congressional Budget Office**, “Key Issues in Analyzing Major Health Insurance Proposals”, December 2008
 - In this report CBO states that it expects those gaining coverage through ACA will utilize health care services at a rate between 75% and 95% of those used by a similarly situated group of insured people. This estimate was derived from a combination of research literature and survey data.
- **Deloitte**, “Impact of Health Care Reform on Insurance Coverage: Projection Scenarios Over 10 Years – Update 2012”, October 2012
 - Presents the results of Deloitte’s Health Reform Impact Model, which was used to evaluate the impact of the ACA on health insurance coverage over 10 years (2012–2021) based on likely scenarios. Results estimate the national uninsured population will decrease by 23% to 50% by 2021.
- **Deloitte**, “New York State Health Benefit Exchange – Study 5: Healthy New York and the Family Health Plus Employer Buy-In”, February 2013
 - Provides an analysis of the potential impact that ACA and a Health Benefit Exchange may have on the state-sponsored Healthy New York and state administered Family Health Plus-Employer Buy-In programs.
- **Families USA**, “The Bottom Line: How the Affordable Care Act Helps New York Families”, October 2011
 - Presents the results of an economic model that simulates all major provisions of the ACA reform and measures their impact on New York families in 2019.

Results are based on New York households and estimate that premiums for the previously insured will be reduced by an average of \$775 per year.

- **Health Leaders Inter Study**, “Managed Market Surveyor – New York State Profile”, January 2012
 - Provides the distribution of the New York population by health coverage type and company in January of 2012, including market share by product type for each insurance company.
- **Health Management Associates**, “New York Insurance Markets and the Affordable Care Act”, December 2012
 - Reviews the current New York health insurance market with a focus on individual and small group plans. Describes changes to market rules required by the ACA, potential impact of changes, and provides recommendations to minimize potential adverse risk selection related to the development of the insurance exchange. The report focuses on policy and does not provide estimates for changes in cost or population.
- **KPMG**, “New York State Health Benefit Exchange SHOP Policy Study”, January 2013
 - Provides an overview of the federal and state laws and regulations related to the design and operation of the Small Business Health Options Program Exchange (SHOP). The report also recommends options and identifies key business processes related to the design of the SHOP.
- **Kaiser Family Foundation**, “Medicaid Coverage and Spending in Health Reform: National and State-by-State Results for Adults at or Below 133% FPL”, May 2010
 - Provides national and state-by-state estimates of the increases in Medicaid coverage and the associated costs compared to a baseline scenario without the Medicaid expansions in health reform. Results of the analysis indicate that Medicaid expansion will significantly increase coverage and reduce the number of uninsured.
- **Milliman**, “Assist with the first year of planning for design and implementation of a federally mandated American Health Benefit Exchange”, August 2011
 - Presents an analysis of the Ohio uninsured population and the impacts of the ACA on that population and the insurance market. Provides an overview of the current Ohio insurance market and employer programs, and estimates potential take-up rates and impacts of the ACA on public, private, and exchange programs under multiple scenarios.
- **PCIP**, “Covering People with Pre-Existing Conditions: Report on the Implementation and Operation of the Pre-Existing Condition Insurance Plan Program”, January 2013
 - Provides an overview of the program and summary of the effects of the Pre-Existing Condition Insurance Plan (PCIP) since its implementation in 2010. PCIP is a temporary high-risk health insurance program that makes health coverage available and more affordable to uninsured individuals who have been denied coverage due to a pre-existing condition.

- **Society of Actuaries**, “Cost of the Future Newly Insured under the Affordable Care Act (ACA)”, March 2013
 - Estimates and quantifies potential market shifts as well as the cost for the newly insured individuals in the individual and small group markets under full implementation of the ACA, relative to current levels. Results are presented at a national and state level. Detailed summary of this study including advantages and limitations is provided later in this report.
- **Urban Institute**, “The Coverage and Cost Effects of Implementation of the Affordable Care Act in New York State”, March 2012
 - Quantifies the coverage and cost implications of the ACA for consumers, employers, and the government in the state of New York assuming full implementation of ACA. Simulates multiple scenarios to project the impact of various reform options. Detailed summary of this study including advantages and limitations is provided later in this report.
- **Urban Institute**, “Uninsured New Yorkers After Full Implementation of the Affordable Care Act: Source of Health Insurance Coverage by Individual Characteristics and Sub-State Geographic Area”, January 2013
 - Presents a sub-state analysis of the characteristics (age, income, race, health insurance type, health status, language, gender, and education) of those expected to gain insurance in New York. Detailed summary of this study including advantages and limitations is provided later in this report.
- **Wakely Consulting Group**, “Actuarial Analysis: Impact of the Affordable Care Act (ACA) on Small Group and Individual Market Premiums in Oregon”, July 2012
 - Quantifies the impact of the ACA on the Oregon individual and small group markets in 2014. Findings estimate a significant increase in Oregon individual premiums post ACA.
- **Wakely Consulting Group**, “Actuarial Analysis: Impact of the ACA on Small Group and Non-Group Market Premiums in Rhode Island”, December 2011
 - Provides an analysis of the Rhode Island individual and small group market, and estimates the impact of the ACA reforms on these markets. Findings estimate a slight increase in premiums for both individual and small group markets.

B. Summary of Key Studies

The primary reference sources for our analysis are those that quantify the impact of the ACA on the uninsured population and present the necessary metrics to justify their findings. Each of the identified sources includes strengths and limitations summarized in this section.

Cost of the Future Newly Insured under the Affordable Care Act (ACA), SOA, March 2013

- **Study Overview.** The study was sponsored by the SOA in March of 2013, with the objective to provide guidance to state and federal officials and administrators, and actuaries assisting states and health plans with planning for implementation of the ACA.

The primary goal of the analysis is to estimate the cost for newly insured individuals in the individual market.

- **Research Model.** The Lewin Group Health Benefits Simulation Model (HBSM) was used to make all research estimates in the study. HBSM is a micro-simulation model of the U.S. health care system. It was developed in 1989 and was used to simulate President Clinton's health reform proposal in 1993. The model was also used by the U.S. Bipartisan Commission on Comprehensive Health Care, and has been consistently used and improved upon by the Lewin Group at county, state and national levels since its creation. The consulting arm of UnitedHealth Group, OptumInsight, has been using HBSM for ACA planning purposes since 2010.

It is important to note that the HBSM model outputs are based on the expected results of implementation of ACA reform in 2014, assuming the full implementation of the 2016 ACA penalties, and completion of ultimate enrollment in the various programs, and initial implementation of the Exchanges.

HBSM uses the 2002-2005 Medical Expenditure Panel Survey (MEPS) data to provide health care utilization and spending by age, sex, income, source of coverage, and employment status. The database is then re-weighted to reflect population totals from the pooled 2008-2010 March Current Population Survey (CPS) data for each state. The resulting database provides a base year population in each state by economic and demographic group. When available, the model incorporates the American Community Survey (ACS) to provide estimates at the county and sub-county levels.

Model results are presented using two HBSM models – a price elasticity model and a utility function model. The elasticity model simulates the decision to choose coverage as a result of change in the net cost of coverage to an individual under reform given their premium and demographic characteristics. The likelihood of taking coverage is estimated using a premium elasticity averaging approximately -3.4. This means that a one percent reduction in premium corresponds to an approximate 3.4 percent increase in the number of individuals taking coverage. The price elasticity model is generated using three scenarios: Lewin Group Baseline ACA Simulation with Medicaid expansion and Exchange subsidies between 138-400%; Baseline ACA Simulations without Medicaid Expansion; and Baseline ACA Simulation without the availability of premium subsidies in the Exchanges.

The utility function models an amount one is willing to pay to be protected against the risk of going without insurance; one chooses coverage if the cost is less than that figure. The utility function model is also generated using three scenarios: the Baseline Utility Simulation with Medicaid expansion and Exchange subsidies between 138-400%; Baseline Utility Simulation with one-third less risk aversion; and Baseline Utility Simulation with two-thirds less risk aversion. The advantage of using two models with several scenarios is that we can view a range of outputs, as well as the impact of certain provisions on cost and coverage. Unless stated otherwise, the Lewin Baseline elasticity model results will be used in the remainder of this report.

The Coverage and Cost Effects of Implementation of the Affordable Care Act in New York State, The Urban Institute, March 2012

- **Study Overview.** The study was conducted by the Urban Institute in March 2012, with the intention of providing analytic support to New York policymakers as they assess the various reform options available for implementing the federal ACA requirements. The report quantifies both health coverage and cost implications for several reform options for consumers, employers, and government. The Standard Implementation option is based on a full implementation of all ACA provisions including small group size increased to 100 employees, the merger of the small group and non-group markets, and Medicaid eligibility set at an effective level of 138%. Of the other options studied, Alternative 4 represents the scenario that most closely matches New York's anticipated 2014 health insurance market where small groups are defined as 2-50 employees and the small group and non-group markets remain independent.
- **Research Model.** The Urban Institute's Health Insurance Policy Simulation Model (HIPSM) was used to make all research assumptions in the report. HIPSM is a micro-simulation model of the health care system. It was developed by researchers in the Health Policy Center at the Urban Institute. The Health Policy Center has a long history of health insurance simulation work. The HIPSM model has been used to analyze the effects of the ACA at the national level and to provide assistance to several other states in preparing for implementation of the ACA.

It is important to note that the model simulates the main coverage provisions of the ACA as if they were fully implemented in 2011 and compares results to HIPSM baseline data results for 2011 without implementation of these reforms.

HIPSM uses an approach known as a utility-based framework to calculate the impact of reform based on the relative attractiveness of the insurance options available. The value of each coverage option is a function of the following: direct premiums paid, value of the health care used, expected out-of-pocket expenses, variance of out-of-pocket expenses, premium or cost-sharing subsidies, and expenses relative to income.

The HIPSM population base is derived from a pooled data set of the March 2009 and 2010 Current Population Survey's (CPS) Annual Social and Economic Supplement (ASEC). For HIPSM-NY, only ASEC data from the state of New York are used, and the data is re-weighted to reflect 2011 population composition in the state. The non-elderly population is not included in the population.

Uninsured New Yorkers After Full Implementation of the Affordable Care Act: Source of Health Insurance Coverage by Individual Characteristics and Sub-State Geographic Area, The Urban Institute, January 2013

- **Study Overview.** The study was conducted by the Urban Institute in January 2013, to assist New York policy makers with a more detailed understanding of the implications of the ACA once implemented. The analysis serves to provide an understanding of the characteristics (age, income, race, health insurance type, health status, language,

gender, and education) and areas of residence of those that will gain health insurance coverage once reform is implemented. The analysis focuses exclusively on the New York uninsured prior to reform.

Research Model. Research assumptions were made using the same HIPSM model used in the March 2012 Urban Institute study with a different baseline. In order to produce enough observations for the sub-state analysis, the results were produced using three years (2008-2010) of the American Community Survey (ACS). The ACS data was augmented with several elements to simulate the effects of the ACA. It is important to note that the post-ACA estimates of the uninsured differ slightly from the March 2012 report because the estimates in this report focus only on the uninsured population prior to reform. The March 2012 report includes a slight adjustment for those individuals expected to transition from insured to uninsured post-reform.

C. Key Findings

The findings presented below include a summary of the estimates provided in the aforementioned studies. In addition, The Lewin Group was able to provide a more detailed sub-state analysis from the SOA study model, which is referenced in the Rating Regions¹² section. When able, the findings are supported or questioned by additional qualitative research.

Coverage for the Newly Insured

Estimates indicate that of New York's approximately 2.5 million individuals who currently do not have insurance coverage, between 38.5% and 53.3% will gain coverage after ACA provisions are fully implemented.¹³ The majority of the newly insured are expected to gain coverage through a combination of the non-group Exchange and Medicaid/CHIP.

Findings indicate that the New York non-group market is expected to increase dramatically in size upon implementation of the ACA. Table 3 shows the estimated take-up rates for the non-group and small group markets assuming the 53.3% reduction in the uninsured from the SOA study. In its March 2012 study, the Urban Institute estimates the non-group market to increase nearly 6 times from 145,000 to 860,000. Of the 860,000 covered lives, 557,000 (65%) are expected to join the non-group exchange.¹⁴ In Table 3, the SOA estimates the New York non-group market to increase in size by approximately 2.6 times, with 84% of the post-ACA non-group market choosing to purchase coverage from the non-group exchange. Note that while directionally similar, the pre and post-ACA populations for the non-group market differ significantly between the Urban Institute and the SOA studies. This population difference is likely due to the inclusion of those covered by New York's Family Health Plus and Child Health Plus plans in the SOA population count.

Table 3. Market Populations Pre and Post-ACA

Market	Pre-ACA	Post-ACA			Total % Change
		Exchange	Private	Total	
Uninsured	2,496,983	--	--	1,165,404	-53.3%
Non-Group	450,240	1,362,184	253,741	1,615,925	258.9%
Small Group¹	2,319,799	810,021	1,654,591	2,464,612	6.2%

Source: Society of Actuaries, "Cost of the Future Newly Insured under the Affordable Care Act (ACA)", Appendix C, March 2013.

¹ Pre and Post-ACA Small Group represent 2-50 employees.

When defined as 2 to 100 employees, the SOA Baseline data expects the small group market to increase in size upon full implementation of the ACA reform. The majority (72%) of the small group market is estimated to choose non-exchange over exchange coverage. The Urban Institute estimates that non-exchange small group will account for 77% of the post-ACA small group market. Of the total estimated exchange population (non-group and small group), the Urban Institute estimates that small group coverage will make up 42% of the exchange, and 58% will purchase non-group insurance through the exchange.¹⁵ The SOA estimates a similar composition of exchange coverage – 38% small group and 62% non-group.

Morbidity of the Newly Insured

Table 4 shows the estimated average morbidity factor of the non-group and small group markets pre and post-ACA as presented by the SOA study using its baseline data which assumes all ACA provisions were fully implemented and presented in 2014 and assuming all states expand Medicaid. The estimated morbidity factors are broken down into exchange and non-exchange coverage costs, and then weighted to calculate a total post-ACA cost. The relative cost is represented as a factor of the average morbidity of pre-ACA reform small group coverage.

Table 4. Average Morbidity as a Factor of Average Monthly Cost of Pre-ACA Small Group Health Insurance

Market	Pre-ACA	Post-ACA			Total % Change
		Exchange	Private	Total	
Non-Group	1.173	0.972	1.216	1.010	-13.9%
Small Group¹	1.000	1.068	0.905	0.959	-4.1%

Source: Society of Actuaries, "Cost of the Future Newly Insured Under the Affordable Care Act (ACA)", Appendix C, March 2013, baseline data.

Note: Factor calculated by dividing average monthly cost by average monthly cost of Pre-ACA Small Group Health Insurance - \$527.73

¹ Pre and Post-ACA Small Group represent 2-50 employees

Both the Urban Institute and SOA studies estimate that non-group costs per capita in New York are expected to decrease post-ACA compared to small group costs. Table 4 above includes the SOA's baseline "Elasticity Model" estimate of the cost of total acute care spending as the change in expected morbidity using pre-ACA small group morbidity as the reference point. As used in this report, "morbidity" refers to the relative incidence of disease or underlying health status of an individual. Additionally, the morbidity factors shown do not include the impacts of reinsurance recoveries, trend, Essential Health Benefits, user fees, variations in administrative costs or other items unrelated to health status that may impact cost.

As shown above, the average morbidity of the non-group population is estimated to decrease 13.9% on a per capita basis in 2014 for the state of New York. The Urban Institute estimates a similar change in average monthly premiums for non-group coverage – a decrease of 13.5% under the Urban Institute’s Standard Implementation option.¹⁶ Urban Institute’s Alternative 4, the option most similar to New York’s current market, estimated non-group premiums to decrease by 1.4%¹⁷ from pre-ACA levels. Note that, while not a direct comparison, Urban Institute’s estimate of a lower non-group premium appears to support the SOA study’s estimated cost decrease. There are several reasons that the New York non-group cost could decrease. Excluding Healthy New York, current non-group premiums are extremely high. These high premiums are a result of the age of this block of business, guaranteed issue, pure community rated market, no income-related subsidies, and the small size of this market. The expected increase in the size of the non-group market post-ACA could introduce a much more typical distribution of health care needs to this market, thus leading to significantly lower premiums.

According to both the Urban Institute’s study and the SOA Baseline data, small group costs are also estimated to decrease as a result of the ACA. The availability of tax credits to encourage small employers to offer insurance and the tax penalty imposed on individuals without coverage may lead to an increase in the size of the small group market, which may further lead to the decrease in cost of small group coverage. Based on the Standard Implementation option, the Urban Institute estimates average monthly premiums for small group (those with 50 or fewer employees) to decrease by approximately 4.3% post-ACA¹⁸, supporting estimates of a 4.1% decrease in average morbidity for small group coverage based on the SOA’s underlying data. The Urban Institute’s Alternative 4 option estimated that small group monthly premiums would decrease approximately 5.3%¹⁹ from pre-ACA levels.

Characteristics of the Uninsured and Non-Group Markets

Estimates indicate that the uninsured will comprise 5.7% of the total New York population after full implementation of ACA reform. The uninsured currently accounts for over 12% of the state’s population.²⁰ Table 5 shows the distribution of the uninsured market in New York pre and post-ACA by income and self-reported health status. Individuals with income below 138% FPL and above 400% FPL make up the majority (67%) of the uninsured post-ACA. In its January 2013 report, the Urban Institute estimates a similar total (65%) between these two groups, but with a higher percentage of uninsured under the 138% FPL (54%) level, and fewer with income levels above 400% FPL (11%).²¹ While self-reported health status is not always a valid indicator, it is interesting to note that close to 80% of the uninsured claim to be in excellent health both pre and post-ACA (see Table 5).

Table 5. Characteristics and Distribution of the Uninsured Pre and Post-ACA

	Uninsured Pre-ACA		Uninsured Post-ACA		% Change Pre-ACA to Post-ACA
	Count	% of Total	Count	% of Total	
Family Income in Month as a Percent of the Federal Poverty Level (FPL)					
Below 138% FPL	769,913	4.0%	402,992	2.1%	-47.7%
138%-200% FPL	409,003	2.1%	112,513	0.6%	-72.5%
200%-300% FPL	510,615	2.6%	153,934	0.8%	-69.9%
300%-400% FPL	305,810	1.6%	106,900	0.5%	-65.0%
400% FPL and Over	501,643	2.6%	341,817	1.8%	-31.9%
Self-reported Health Status					
Excellent	1,950,118	10.0%	880,140	4.5%	-54.9%
Good	437,328	2.2%	192,327	1.0%	-56.0%
Fair	92,370	0.5%	39,382	0.2%	-57.4%
Poor	17,168	0.1%	6,308	0.0%	-63.3%
Total	2,496,983	12.8%	1,118,156	5.7%	-55.2%

Source: Society of Actuaries, "Cost of the Newly Insured Under the Affordable Care Act (ACA)", Appendix C, March 2013.
% of Total refers to total New York state population

Table 6 provides the distribution of the New York non-group market pre and post-ACA by income and self-reported health status. Findings indicate that individuals with income between 138% and 300% FPL see the largest increase in coverage.

Table 6. Characteristics and Distribution of the Non-Group Market Pre and Post-ACA

	Non-Group Pre-ACA		Non-Group Post-ACA		% Change Pre-ACA to Post-ACA
	Count	% of Total	Count	% of Total	
Family Income in Month as a Percent of the Federal Poverty Level (FPL)					
Below 138% FPL	71,290	0.4%	124,837	0.6%	75.1%
138%-200% FPL	38,417	0.2%	394,635	2.0%	927.2%
200%-300% FPL	70,168	0.4%	437,668	2.2%	523.7%
300%-400% FPL	68,880	0.4%	274,199	1.4%	298.1%
400% FPL and Over	201,485	1.0%	384,585	2.0%	90.9%
Self-reported Health Status					
Excellent	395,290	2.0%	1,311,481	6.7%	231.8%
Good	46,060	0.2%	250,021	1.3%	442.8%
Fair	7,548	0.0%	46,144	0.2%	511.3%
Poor	1,342	0.0%	8,279	0.0%	516.9%
Total	450,240	2.3%	1,615,925	8.3%	258.9%

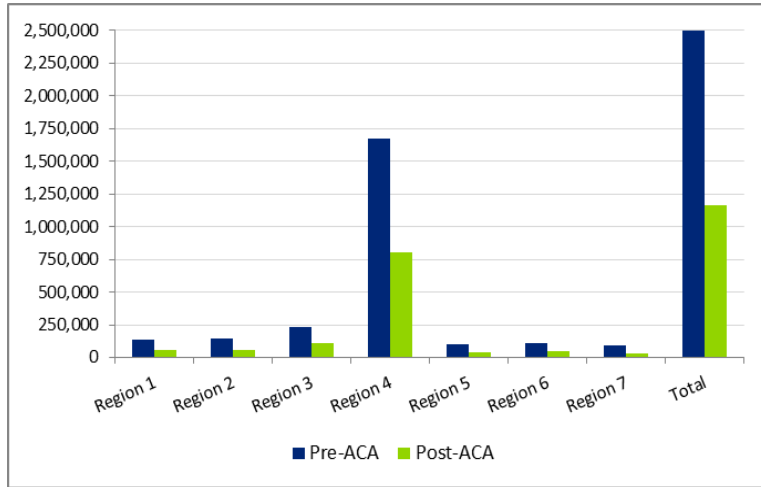
Source: Society of Actuaries; "Cost of the Newly Insured Under the Affordable Care Act (ACA)", Appendix C; March 2013
% of Total refers to total New York state population

Rating Regions

The Lewin Group Health Benefits Simulation Model (HBSM) is designed to simulate health care reform estimates at the county level, in addition to state and national levels. While sub-state analyses were not provided in the SOA study, the following information was generated using the same HBSM model at a rating region level. Although close, the data used by The Lewin Group was not available at a level that exactly matched the rating regions currently used by New York State. Please see the Appendix for a complete list of the counties included in each rating region. Additionally, please note that New York will be splitting Region 4 (New York City) into two rating regions to break out Suffolk and Nassau counties.

Figures 1 and 2 show the uninsured and non-group market populations pre and post-ACA by rating region. Region 4, which is comprised of New York City, makes up the majority of the uninsured and non-group markets.

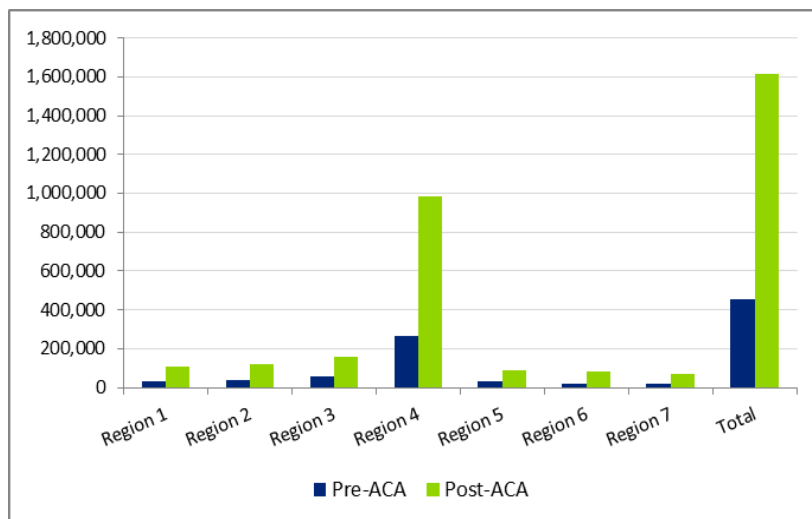
Figure 1. Uninsured Population Pre and Post-ACA by Rating Region



Source: The Lewin Group

Note: Lewin’s rating region definitions differ from those used by New York State

Figure 2. Non-Group Market Population Pre and Post-ACA by Rating Region



Source: The Lewin Group

Note: Lewin’s rating region definitions differ from those used by New York State

In addition to market size, the demographic characteristics for each Region can result in cost and coverage variations. Tables 7 and 8 show the income levels and self-reported health status for the non-group markets pre and post-ACA by rating region.

Table 7. Demographic Characteristics of the Non-Group Market Pre-ACA by Rating Region

Characteristic	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7
Family Income in Month as a Percent of the Federal Poverty Level (FPL)							
Below 138% FPL	19.4%	22.4%	16.1%	17.2%	23.7%	21.0%	23.4%
138%-200% FPL	9.9%	11.6%	8.2%	8.8%	10.6%	11.1%	11.4%
200%-300% FPL	15.3%	16.3%	11.4%	13.3%	14.5%	16.1%	18.9%
300%-400% FPL	15.8%	15.4%	12.8%	14.0%	14.6%	14.8%	15.5%
400% FPL and Over	39.7%	34.3%	51.5%	46.7%	36.6%	37.0%	30.8%
Self-reported Health Status							
Excellent	87.7%	87.2%	87.8%	85.9%	87.3%	87.8%	87.7%
Good	9.7%	9.8%	9.8%	11.4%	9.9%	9.6%	9.4%
Fair	2.2%	2.6%	2.0%	2.4%	2.4%	2.3%	2.4%
Poor	0.4%	0.4%	0.4%	0.3%	0.4%	0.4%	0.4%

Source: The Lewin Group

Note: Lewin’s rating region definitions differ from those used by New York State

Table 8. Demographic Characteristics of the Non-Group Market Post-ACA by Rating Region

Characteristic	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7
Family Income in Month as a Percent of the Federal Poverty Level (FPL)							
Below 138% FPL	8.8%	10.1%	8.5%	8.5%	12.1%	9.2%	9.6%
138%-200% FPL	23.6%	26.0%	21.0%	25.9%	23.4%	26.0%	26.7%
200%-300% FPL	25.6%	26.5%	22.5%	25.6%	24.1%	27.0%	30.5%
300%-400% FPL	19.0%	17.4%	16.5%	16.6%	17.2%	17.5%	17.1%
400% FPL and Over	23.0%	19.9%	31.5%	23.5%	23.2%	20.3%	16.1%
Self-reported Health Status							
Excellent	82.6%	82.0%	82.6%	80.2%	82.4%	82.2%	82.1%
Good	14.3%	14.6%	14.2%	16.1%	14.3%	14.6%	14.8%
Fair	2.4%	2.7%	2.7%	3.2%	2.7%	2.5%	2.4%
Poor	0.6%	0.7%	0.5%	0.5%	0.6%	0.6%	0.7%

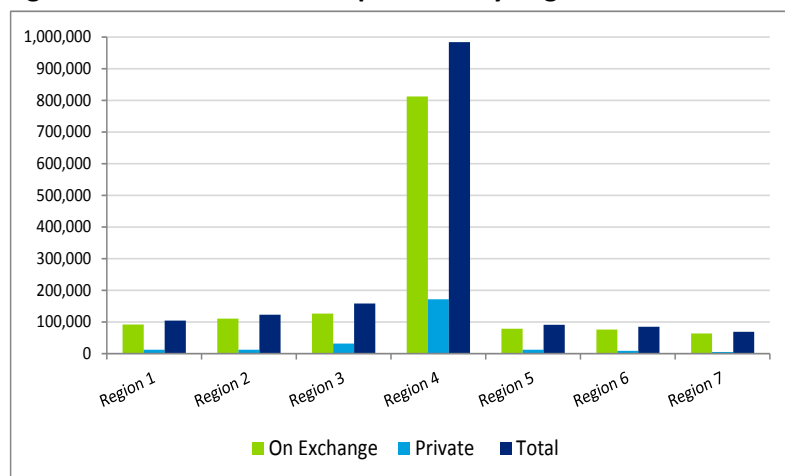
Source: The Lewin Group

Note: Lewin’s rating region definitions differ from those used by New York State

Findings indicate noticeable increases in non-group coverage for those individuals with income between 138% and 300% FPL across all rating regions. There is also an approximate 5% decrease in individuals reporting health status as excellent across all regions.

The post-ACA non-group market will be comprised of members on and off the exchange. Figure 3 shows the population of non-group members on and off the exchange post-ACA.

Figure 3. Post-ACA Non-Group Market by Region



Source: The Lewin Group

Note: Lewin's rating region definitions differ from those used by New York State

Findings indicate that over 84% of individuals in New York that choose non-group coverage will purchase coverage on the non-group exchange.²² This finding is consistent across rating regions, and may indicate that most individuals that choose non-group coverage will be eligible for some type of subsidy on the exchange.

D. Alternative Scenarios

In an effort to better understand the potential impacts of ACA reform implementation on the cost of the non-group and small group markets in New York in 2014, several alternative scenarios were developed and analyzed. The Adjusted Baseline scenario, which is described in more detail below, is meant to adjust the SOA pre-ACA non-group population to more accurately reflect the commercial non-group populations provided by DFS. As stated under the SOA model limitations, the non-group population likely includes Family Health Plus (FHP) and Child Health Plus (CHP), which are typically excluded from non-group commercial enrollment figures. The other three scenarios are meant to test the sensitivity of estimated morbidity levels due to differences in insurance take-up rates by those who may lose employer sponsored coverage during the transition to ACA. By adjusting the populations and pre-ACA cost assumptions used in the SOA report, Deloitte has estimated and summarized the potential impact of the following alternative outcomes.

- **Adjusted Baseline Scenario** modifies the SOA's estimate of 2,319,799 pre-ACA small employer members to reflect DFS's estimate of 1,525,091 and 450,240 pre-ACA non-group members to reflect DFS' estimate of 154,565. The majority of the excluded members of the non-group category are assumed to belong to the FHP and CHP populations. In the post-ACA period, 90% of the FHP and 100% of the CHP members are expected to migrate to the post-ACA Medicaid population instead of remaining in the non-group market.

The pre-ACA morbidity assumptions used by the SOA for the non-group members was also modified to more closely reflect the health status relationship between the non-group and small group (2-50) populations as measured by the HHS-HCC risk adjustment

model. Using diagnostic data from both the small group and non-group populations collected from New York health plans and applying the HHS-HCC risk adjustment model, risk factors for both the small and non-group markets were produced. For the non-group market the plan average risk score was found to be 2.288 and for the small group market it was 1.595, producing a relative morbidity factor of 1.434 for the non-group market when compared to the small group market. Thus, the pre-ACA non-group morbidity factor was adjusted to 1.434 in the Adjusted Baseline scenario.

- **Scenario 1** begins with the adjusted baseline, and assumes that a higher number of employers decide to drop coverage than is assumed in the SOA study, resulting in additional people losing group coverage and a higher number purchasing non-group coverage post-ACA. It is assumed that an additional 10% of the small group members (2 – 50 employees), and 5% of the large group members drop group coverage post-ACA. Of those losing coverage, it is further assumed that 90% of them buy coverage in the non-group market. The morbidity of those choosing not to purchase coverage and become uninsured is assumed to be 20% better than the average population from whence they came. The corollary to this assumption is that those buying coverage in the non-group market are assumed to have morbidity worse than average in order to balance back to the average in total.
- **Scenario 2** begins with the adjusted baseline, and also assumes that additional people lose group coverage (10% small group and 5% large group), but that only 75% these individuals purchase non-group coverage. The morbidity of those deciding to become uninsured is also assumed to be 20% better than the average populations from which they came.
- **Scenario 3** is identical to Scenarios 1 and 2 except that it is assumed that only 50% of those losing employer-based coverage buy non-group insurance.

For scenarios 1, 2, and 3 those individuals losing group coverage are assumed to have the average morbidity of the group from whence they came. However, because of the assumption that the morbidity of those electing to remain uninsured stays at a constant 20% improvement over their previous morbidity level and because the proportion of those losing group coverage and then taking up non-group coverage varies across the three scenarios, the relative morbidity of those electing non-group coverage varies by scenario and contributes to the relative change in total cost. Table 9 below shows the relative morbidity factors used by scenario.

Table 9. Relative Morbidity by Scenario

Status	Scenario 1	Scenario 2	Scenario 3
% Losing Coverage	10%	25%	50%
Losing Coverage	1.000	1.000	1.000
Electing Uninsured	0.800	0.800	0.800
Electing Non-Group	1.022	1.067	1.200
Total	1.000	1.000	1.000

Tables 10 A and 10 B (repeated from Tables 1 and 2 A in the Executive Summary) compare the population and morbidity impacts for the Adjusted Baseline, and Scenarios 1, 2, and 3 to the original SOA baseline results presented earlier in the report.

Table 10 A. Market Populations by Scenarios

Market	Baseline*	Adj Baseline	Scenario 1	Scenario 2	Scenario 3
Uninsured					
Pre-ACA	2,496,983	2,496,983	2,496,983	2,496,983	2,496,983
Post-ACA (2014)	1,165,404	1,159,386	1,211,667	1,290,088	1,420,790
% Change in Population	-53.3%	-53.6%	-51.5%	-48.3%	-43.1%
Non-Group					
Pre-ACA	450,240	154,565	154,565	154,565	154,565
Post-ACA (2014)	1,615,925	1,322,767	1,793,294	1,714,873	1,584,171
% Change in Population	258.9%	755.8%	1060.2%	1009.5%	924.9%
Small Group**					
Pre-ACA	2,319,799	1,525,091	1,525,091	1,525,091	1,525,091
Post-ACA (2014)	2,464,612	1,714,198	1,542,778	1,542,778	1,542,778
% Change in Population	6.2%	12.4%	1.2%	1.2%	1.2%

Source: Society of Actuaries, "Cost of the Future Newly Insured Under the Affordable Care Act (ACA)", Appendix C, March 2013.

* Baseline scenario uses the SOA Elasticity model results

** Pre and Post ACA Small Groups are defined as having (2-50) members. Deloitte made adjustments to reflect this

Table 10 B. Morbidity as a Factor of Average Monthly Small Group Health Insurance

Market	Baseline*	Adj Baseline	Scenario 1	Scenario 2	Scenario 3
Non-Group					
Pre-ACA	1.173	1.434	1.434	1.434	1.434
Post-ACA (2014)	1.010	1.017	1.026	1.035	1.053
% Change in Cost	-13.9%	-29.1%	-28.5%	-27.8%	-26.6%
Small Group**					
Pre-ACA	1.000	1.000	1.000	1.000	1.000
Post-ACA (2014)	0.959	0.948	0.948	0.948	0.948
% Change in Cost	-4.1%	-5.2%	-5.2%	-5.2%	-5.2%

Source: Society of Actuaries, "Cost of the Future Newly Insured Under the Affordable Care Act (ACA)", Appendix C, March 2013.

Note: Factor calculated by dividing average monthly cost by average monthly cost of Pre-ACA Small Group Health Insurance - \$527.73

* Baseline scenario uses the SOA Elasticity model results

** Pre and Post ACA Small Groups are defined as having (2-50) members. Deloitte made adjustments to reflect this

In the Adjusted Baseline Scenario, the pre-ACA morbidity factor in the non-group market is assumed to be significantly higher than the Baseline scenario based on results of the HHS-HCC risk adjustment model applied to New York data. Based on the assumptions used for the Adjusted Baseline scenario, non-group morbidity is estimated to decrease by 29% post-ACA compared to pre-ACA levels. The estimated morbidity reduction is slightly less for each of the three other scenarios as fewer people are assumed to elect coverage and those not electing coverage are assumed to be healthier than average.

4. Lifestyle Analytics

A. Overview

The use of advanced analytics or predictive modeling techniques has been around in the insurance and healthcare marketplaces for many years. However, much of the activity surrounding the prediction of future health risks and claims costs has been based on the analysis of past medical history and past claims data. Risk adjusters and morbidity tables are examples of this type of analysis.

Other industries have realized the value of adding additional data sources to their predictive algorithms to greatly increase the success of the algorithms. The Property and Casualty industry is a great example of this. Starting almost 15 years ago they began by incorporating credit scores into their underwriting algorithms for personal auto insurance. Over the years they have dramatically increased the use of alternative data to well over 1,000 fields throughout the personal and commercial lines of business. For the P&C industry, it has been suggested that those companies not using advanced algorithms and additional data are most likely not in business any more.

Lifestyle Based Analytics (LBA) is a specialized area of advanced analytics, which uses non-claims based alternative data sources to estimate future health risks and claims levels. According to the office of the US Surgeon General, over 70% of the diseases and subsequent deaths in the US are lifestyle related. LBA takes advantage of this fact by using many different publically available consumer data sources, which contain hundreds of lifestyle based variables. Examples include the knowledge that cardiovascular health is correlated with high output exercise as found by individuals identified as runners or swimmers. Similarly, various types of cancer are correlated with tobacco consumption or bad eating habits, which can also be obtained through third party data sources.

Deloitte has spent many years building LBA algorithms for life and health applications including application triage, group underwriting, risk based marketing and retention, and wellness and disease management. Over this time, we learned that although the raw third party data does have some correlation, much stronger correlations can be developed by creating synthetic variables. An example in the mortgage industry would be an individual's credit score. Although any one financial variable has a correlation to the probability of defaulting (such as mortgage value ratio), if multiple financial variables are combined into one synthetic variable (such as a credit score), the result is a much stronger variable. Deloitte's disease state algorithms are examples of this in the healthcare area.

Deloitte has consolidated a database with millions of health plan members and claims from across the country. This dataset has been appended with hundreds of lifestyle data points for each member. From this dataset, we have created numerous synthetic variables like the disease state algorithms which correlate publically available consumer lifestyle data with a known diagnosis. Using many of these synthetic variables with other raw variables we have built an overall health risk score which is correlated to total claims cost. All of these algorithms have been validated against hold out datasets, which contain claims level detail data on populations of people other than those who were used to build the original algorithms. The

results obtained through the scoring and comparison of the validation datasets are applied to future population scorings to estimate the population’s health risks. Additionally, year-over-year studies have shown the LBA results to be very similar to the validation results.

One of the major advantages of LBA is that it allows for the estimation of population health risks in the absence of claims data or known medical history. This is useful for new business applications or for the large percentage of members who have little or no significant claims history and where the other risk assessment methods like risk adjusters fail. For this particular project, LBA is an excellent tool for evaluating the health risks of the uninsured marketplace as historical claims data on the individuals is relatively unknown.

B. Methodology

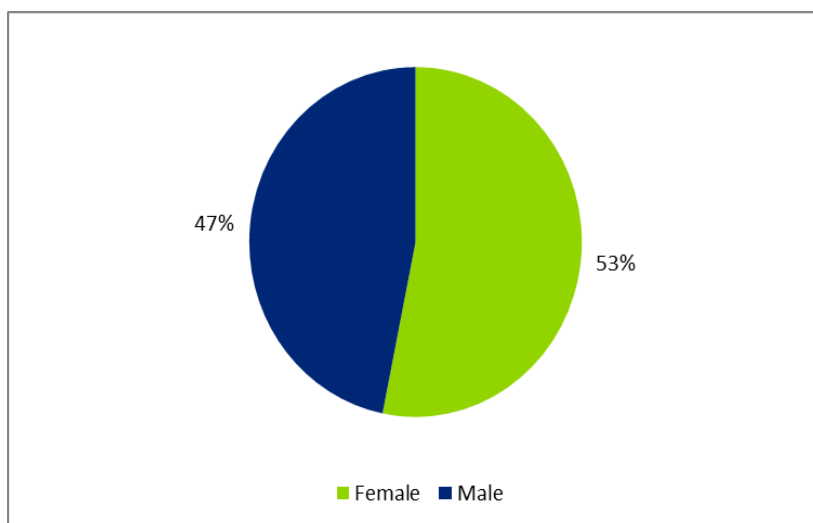
For this project, LBA was also used to split the populations into insured and uninsured segments and then to estimate the health risks of each population by using algorithms developed and validated on our national health plan datasets.

We relied on the Knowledge Base Marketing (KBM) dataset for this project. This publicly available database has about 15 million records (15,631,763) for the adult population (>17 years old) population within the state of NY. We trimmed the dataset by eliminating people who have moved out of state, eliminating duplicate records of people with two or more addresses within the state or plain duplicates. Additionally we restricted the study population to the non-Medicare and non-Medicaid population by removing individuals 65 years and older and households below the 133% FPL.

The final number of adult individuals in the data after applying the above filters is 7,303,358. The LBA analysis was performed on this population of the state. The following two charts show a distribution of this population by age and gender.

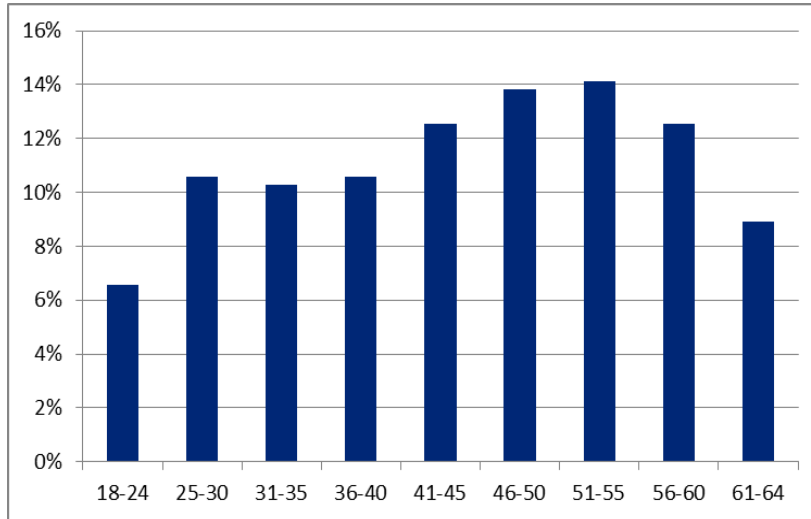
Demographic Distributions of the Data Used for the LBA Study

Figure 4. State of New York Population by Gender Distributions



Source: KBM, January 2013

Figure 5. State of New York Population by Age Distributions



Source: KBM, January 2013

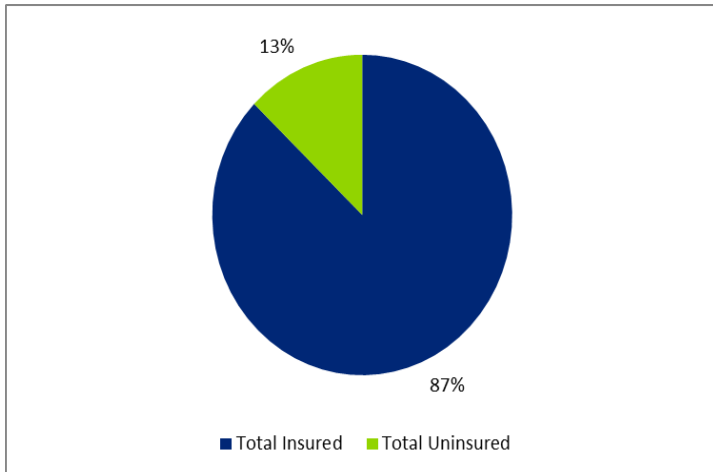
We then scored the entire adult population of NY using the disease state algorithms followed by the development of the overall health risk algorithm. Thus, every adult within the state has been assigned a unique health risk score and multiple disease state scores. All adults can then be rolled up and compared across age, gender, region, FPL and other categorical splits.

Additionally, using a subset of the national database, we built a unique model to identify the insured from the uninsured. This was accomplished by primarily focusing on those areas of the country where we had very good coverage of the health plans within a geographical area. This “uninsured/insured” algorithm was also scored across the entire NY population base.

Using data collected by Deloitte and the State of NY, we determined approximate counts of individuals within the state falling into various healthcare buckets such as insured, uninsured, Medicaid, Medicare, and other federal and state programs. Using these counts and the uninsured/insured algorithm, we divided up the NY database into insured and uninsured members. Finally, we aggregated the results into a spreadsheet that allows us to cut the data on many individual variables like age, gender, insured, uninsured, and FPL.

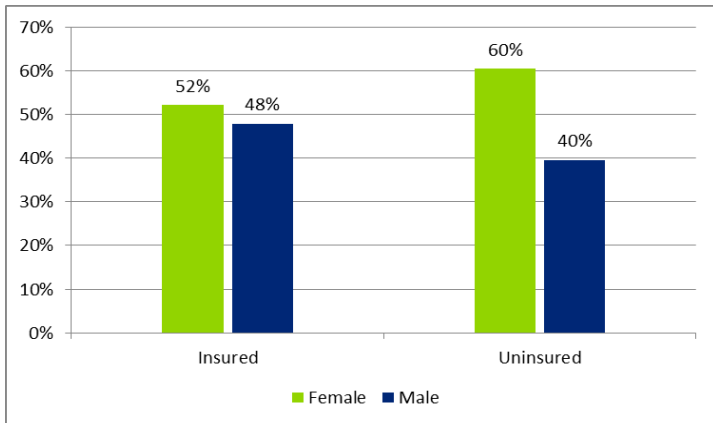
Basic Demographic Distributions Using the Uninsured/Insured Algorithm

Figure 6: State of New York Population by Coverage Status



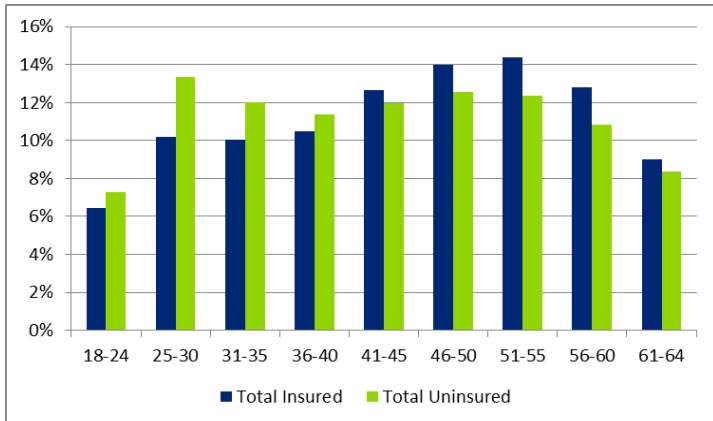
Source: KBM, January 2013

Figure 7: State of New York Population by Gender and Coverage Status



Source: KBM, January 2013

Figure 8: State of New York Population by Age and Coverage Status



Source: KBM, January 2013

Please note, in the above graph, the 18 – 30 year old distributions are most likely under reported. This is a result of consumer datasets not having complete coverage at the younger ages. For example, a college student might still be reported under the family household and not as an independent person. Thus, the above graph is best viewed when looking at the relativities between insured and uninsured and not necessarily the distributions across the age categories.

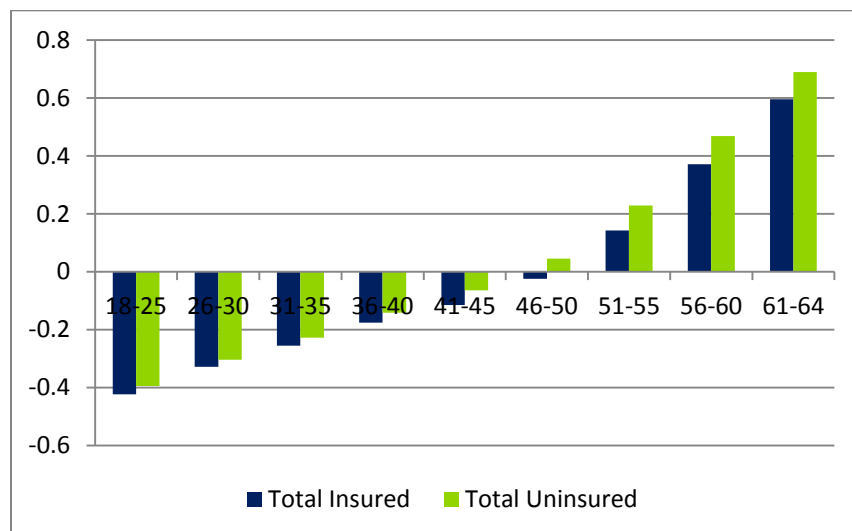
C. Key Findings

The following charts show LBA based health risk comparisons across a variety of splits. The major category split for the analysis is derived from the uninsured/insured algorithm which splits that population into the uninsured population and the insured population comprised of both individual and group health plan members.

Note that the LBA results for this project are based on the overall health risks of the two populations today. They do *not* take into account any other factors like the possible pent up demand that might exist in the uninsured population or estimates as to who will take up insurance and who will not.

This first table shows the overall health risk ratios between the insured population and the uninsured population across gender and age splits. As shown below, up until the ages of about 40 years old, we see about a 1% or 2% difference in health risk between the categories of insured and uninsured with the insured population having slightly better overall health risks than the uninsured. However, beyond that age of 40, we see that the category of uninsured start to increase in health risks as compared to the insured population. Although the uninsured population is estimated to have worse health risks in each age category, the demographic composition of the uninsured population is younger that the insured population, which is estimated to result in a reduction in morbidity. The combination of these two results in morbidity for the uninsured population that is approximately 3% less than the small group population when weighted based on the anticipated population.

Figure 9: Claims Cost Risk Relativity by Age



Source: KBM, January 2013

Alternative Scenarios Using the LBA Adjustment for Newly Insured Costs

The scenarios discussed above were rerun using an adjusted morbidity factor for the newly insured. The SOA study expected the newly insured to consume health care services in line with those who already have insurance. Additionally, the CBO paper expected the newly insured to consume health care services equal to 75% to 95% of that consumed by existing insureds. However, the cost data produced by the SOA tables showed a significant (approximately 23%) reduction in the average cost of the newly insured when compared to similarly situated existing small group insureds. This is likely due to the fact that the SOA's average costs may not be fully adjusted for the difference in demographics between the two populations. These differences could include age, gender, income level, and health status and could account for the bulk of the difference in expected costs.

Using the LBA-derived assumption that the newly insured have slightly increased morbidity than similarly situated existing insureds could shed some light on the potential changes in average cost to the individual and small group markets if this assumption is found to be closer to the truth. Table 11 (repeated from Table 2 B in the Executive Summary) provides the results by scenario.

Table 11. Morbidity as a Factor of Average Monthly Small Group Health Insurance

Market	Baseline*	Adj Baseline	Scenario 1	Scenario 2	Scenario 3
Non-Group					
Pre-ACA	1.173	1.434	1.434	1.434	1.434
Post-ACA (2014)	1.093	1.119	1.104	1.117	1.140
% Change in Cost	-6.8%	-22.0%	-23.0%	-22.1%	-20.5%
Small Group**					
Pre-ACA	1.000	1.000	1.000	1.000	1.000
Post-ACA (2014)	0.975	0.972	0.972	0.972	0.972
% Change in Cost	-2.5%	-2.8%	-2.8%	-2.8%	-2.8%

Source: Society of Actuaries, "Cost of the Future Newly Insured Under the Affordable Care Act (ACA)", Appendix C, March 2013.

Note: Factor calculated by dividing average monthly cost by average monthly cost of Pre-ACA Small Group Health Insurance - \$527.73

* Baseline scenario uses the SOA Elasticity model results

** Pre and Post ACA Small Groups are defined as having (2-50) members. Deloitte made adjustments to reflect this

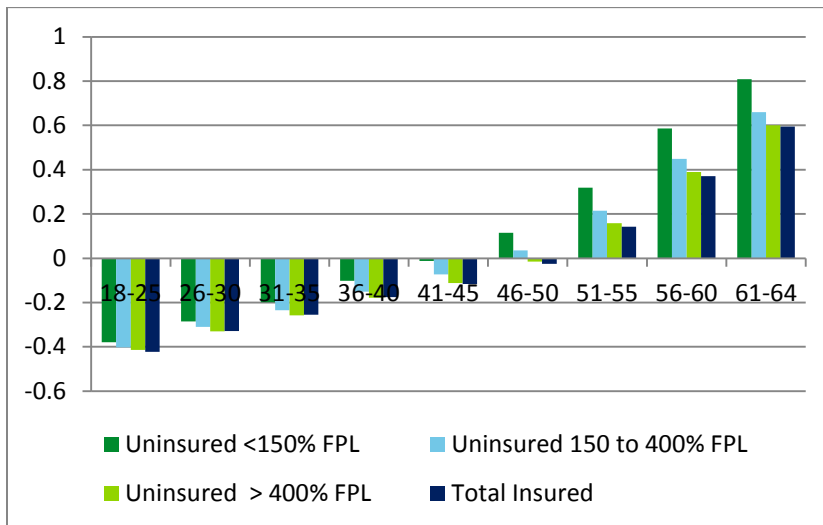
While the adjustment to the estimated morbidity levels of the uninsured decrease the estimated potential cost savings for both the non-group and small group markets, the estimated savings are still significant across all scenarios examined. Similar to the results in the non-LBA adjusted scenarios, this suggests that implementation of ACA will likely generate meaningful morbidity reductions in both the non-group and small group markets in New York.

Additional Findings

In the following charts, we break out the uninsured marketplace into three FPL categories: 133% to 149% (< 150%), 150% to 400%, and greater than 400%. You will notice that in the younger ages there is not much difference between the three FPL ranges. However, as the ages

increase, we see the lowest FPL group (<150%) start to increase in expected costs relative to the other groups.

Figure 10. Claims Cost Risk Relativity for the NY Population by Age and FPL



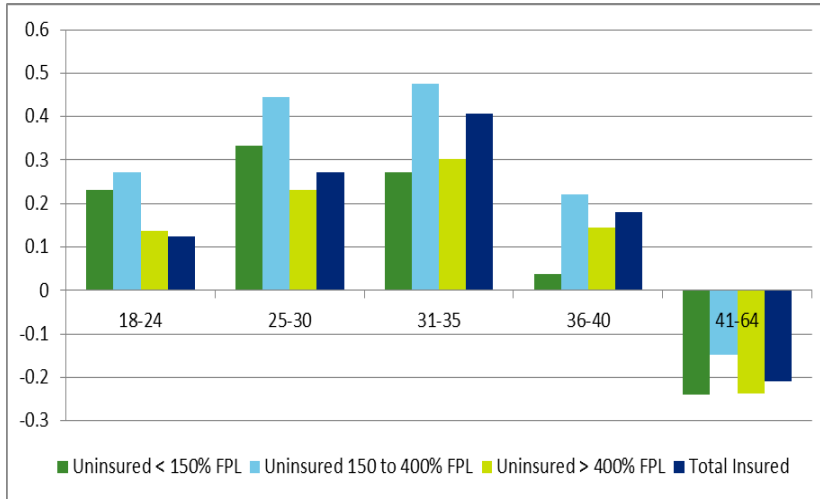
Source: KBM, January 2013

Disease State Algorithms

The overall LBA claims cost risk relativity score is developed using a combination of individual disease state scores with other data elements such as age and gender. Using a single algorithm to predict total claims expense is difficult as the lifestyle attributes tied to a maternity claim are quite different than those tied to a cardiovascular claim or a tobacco induced cancer claim. Therefore, we first scored the entire NY population on 14 individual disease state algorithms and then used the results of those algorithms to create the aggregated claims cost score. The following graphs are examples of some of the interesting findings across different disease states.

In the graph below, a maternity event is defined by the pregnancy up to and including the birth of the child. It does not take into account complications with the newborn. As shown by the graph, in the younger ages we see the claims dollars associated with maternity cases to be higher in the uninsured population as compared to the insured population. However, as females mature, we see the insured population catching up and even surpassing the uninsured population in maternity costs.

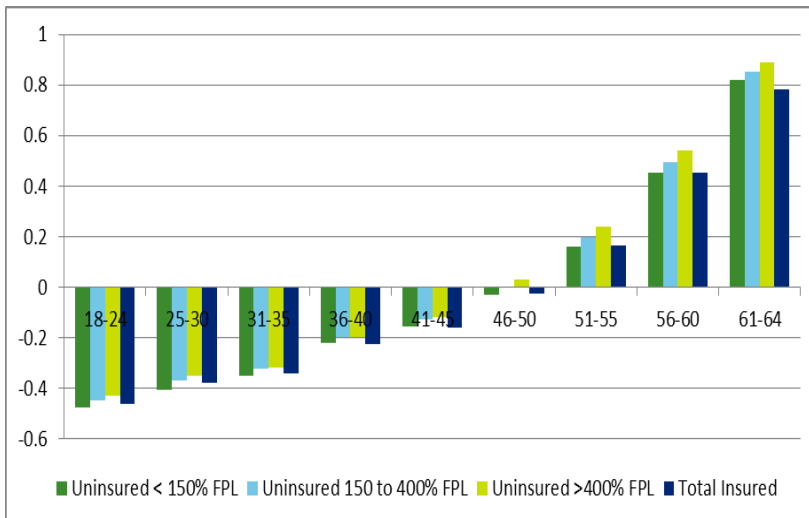
Figure 11. Likelihood of Maternity Event for Female Population by Age



Source: KBM, January 2013

The following chart represents the likelihood of a cardio event comparing the insured and uninsured populations. As shown by the graph, up to age 50, there is not much difference in the likelihood of cardio occurrence across different groups. After age 50, the uninsured >400% FPL seems to steadily increase in risk compared to the rest of the population.

Figure 12. Likelihood of Cardio Event for the Uninsured and Insured Populations



Source: KBM, January 2013

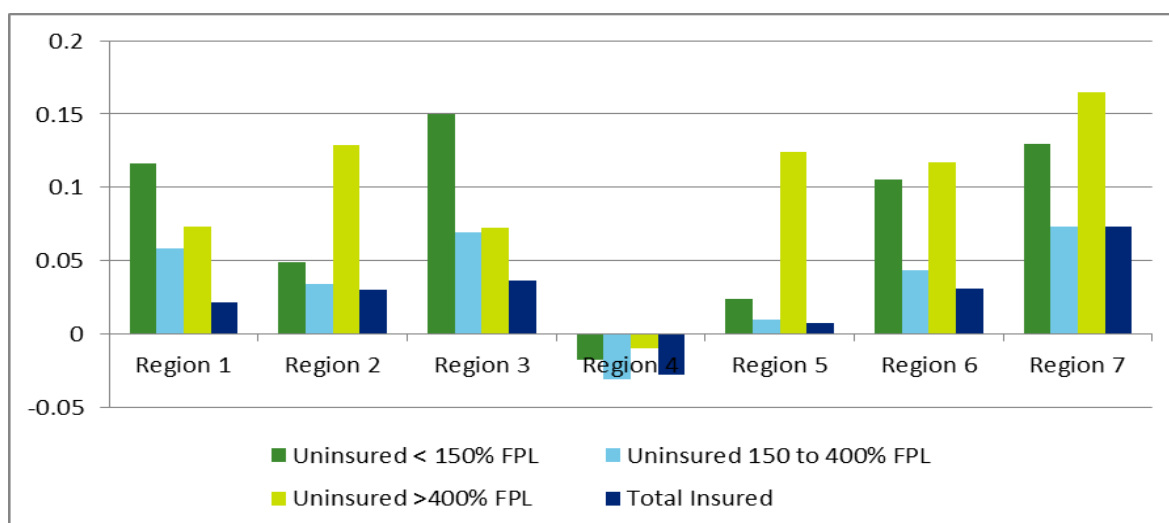
In Figure 10 we see that the overall claims risk relativity across the age ranges is a reasonably smooth line demonstrating that the uninsured are generally more expensive than the insured. However, it is interesting to note that when looking at the individual disease state algorithms (figures 11 and 12) we see that this pattern is not necessarily replicated in each disease state algorithm. For example, Figure 11 shows that the total costs (frequency times severity) associated with a maternity event for the insured population is actually greater than that for the uninsured after age 31.

Health Risk by Region:

In the following section we compare the health risks across the regions based on the rating regions as defined by The Lewin Group. (Note: The counties included in The Lewin Group's rating regions vary somewhat from that used by the state of New York. Please see the Appendix for details of the differences in definitions.) Please note that the figures do not reflect the differences in average cost per service from one region to another region. Instead, they represent the differences in age, gender and the health risk factors of individuals living within each of the 7 regions.

The following graph shows the relative health risk of the NY population by region. New York City has the lowest risk among all the regions. Within New York City, insured and uninsured have similar health risks.

Figure 13. Claims Cost Risk



Source: KBM, January 2013

Additional Demographic and Financial, and Lifestyle Data Elements

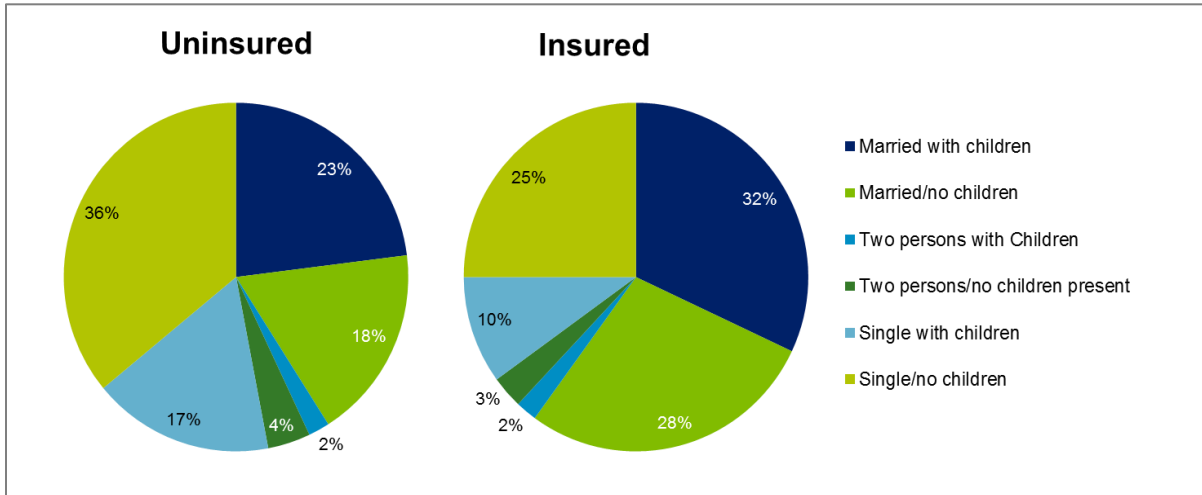
In many of the existing analyses of the insured vs. uninsured marketplaces we have found broad assumptions have been made as to what each of the populations actually look like. In fact, most reports do not even address the topic of the unique populations. In the following tables we have compared and contrasted a few demographic, financial, and lifestyle data elements to illustrate some of the differences between the two populations.

Household Composition:

A review of household composition across insured and uninsured group shows that about 36% of the uninsured are single households without children, compared to only 25% among the insured population.

- A total of 41% of the uninsured are living in married households compared to 60% of insured population who live in married households.
- 53% of the uninsured are in one-person (single) households while only 35% of insured live in such households.

Figure 14. Household Composition by Insured and Uninsured



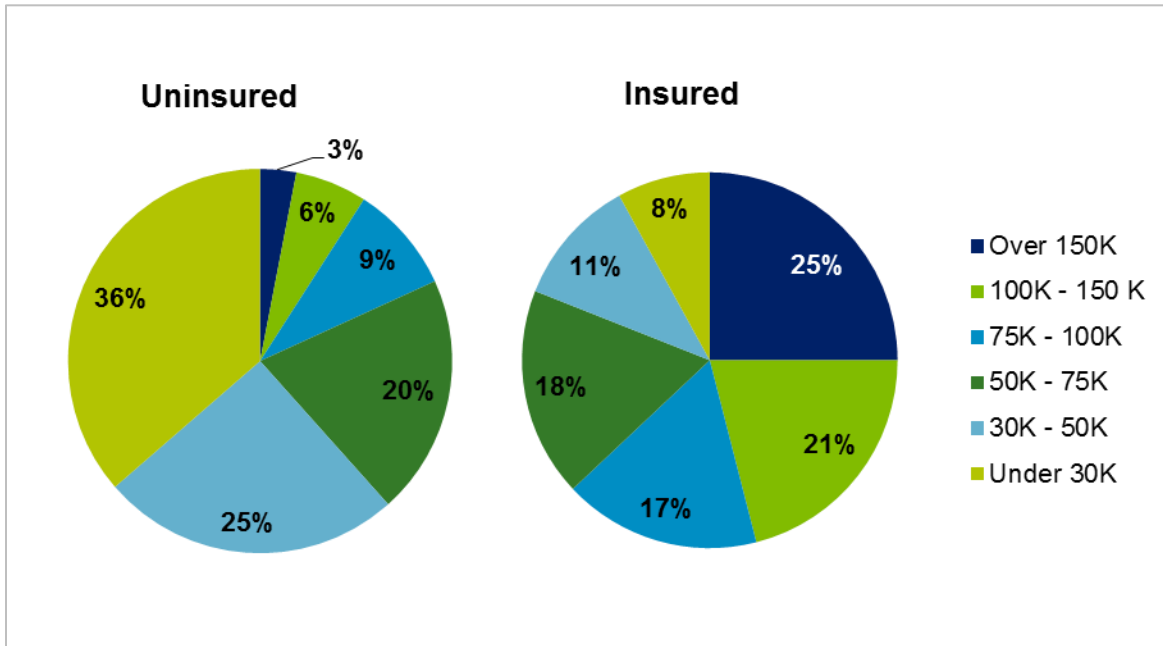
Source: KBM, January 2013

Household Income:

About 36% of the uninsured population has a household income of less than 30k compared to only 8% of insured within the same income group.

About 25% of insured have incomes more than 150k while only 3% of the uninsured have incomes over 150k.

Figure 15. Household Income Distribution by Insured and Uninsured

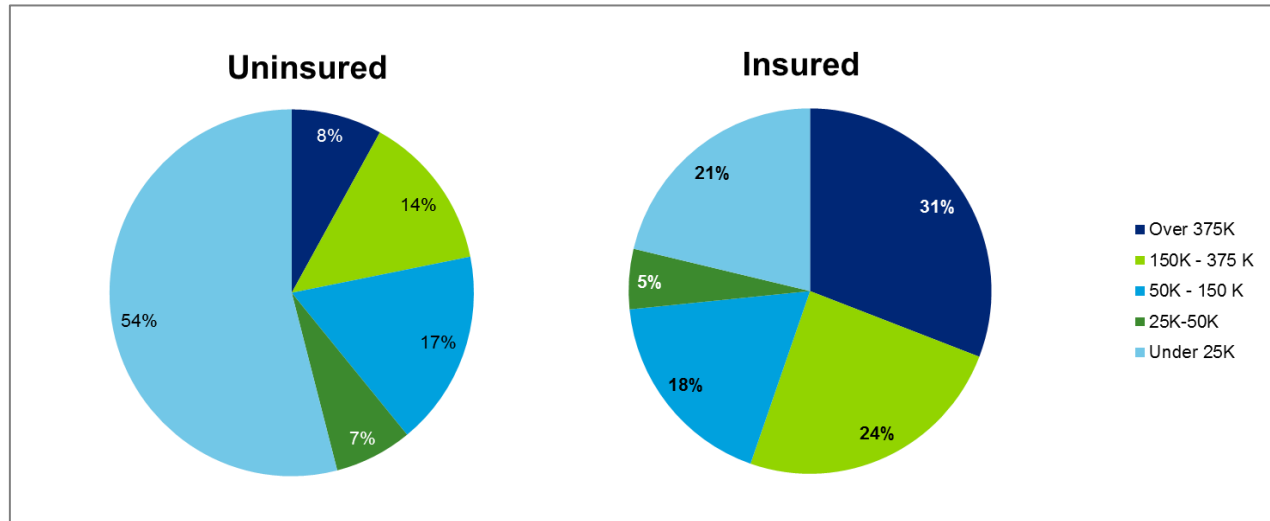


Source: KBM, January 2013

Household Net Worth:

About 54% of the uninsured population has a net worth of less than \$25,000 compared to the insured where only 21% of the insured have net worth less than \$25,000.

Figure 16. Household Net Worth by Insured and Uninsured

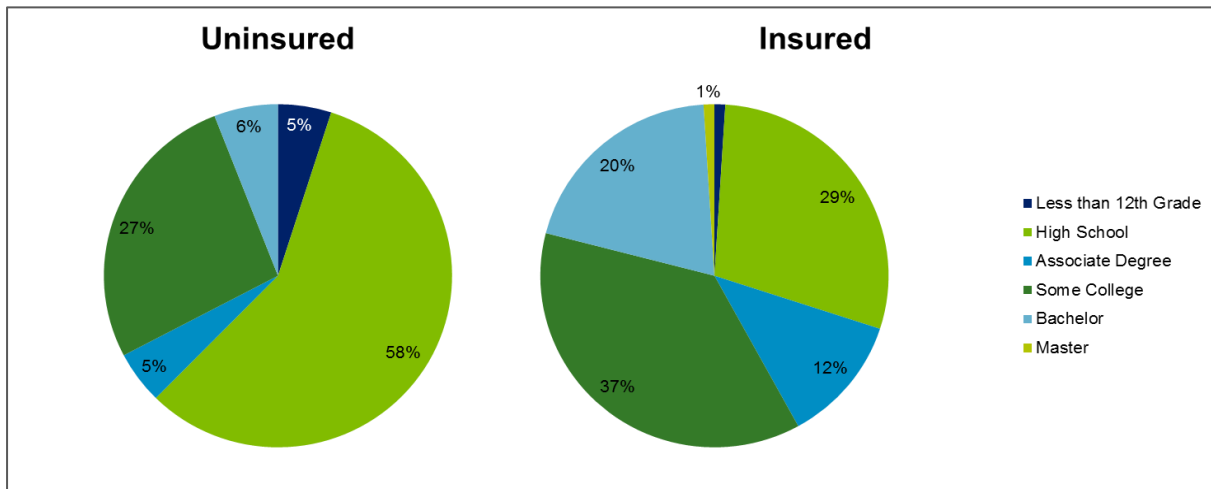


Source: KBM, January 2013

Household Education:

About 63% of the uninsured have an education level of high school or lower, compared to the insured where this group makes up only 30% on the insured. Only 6% of the uninsured population have bachelors degree or higher, compared to 21% of the insured population.

Figure 17. State of New York Population by Coverage Status and Education Level

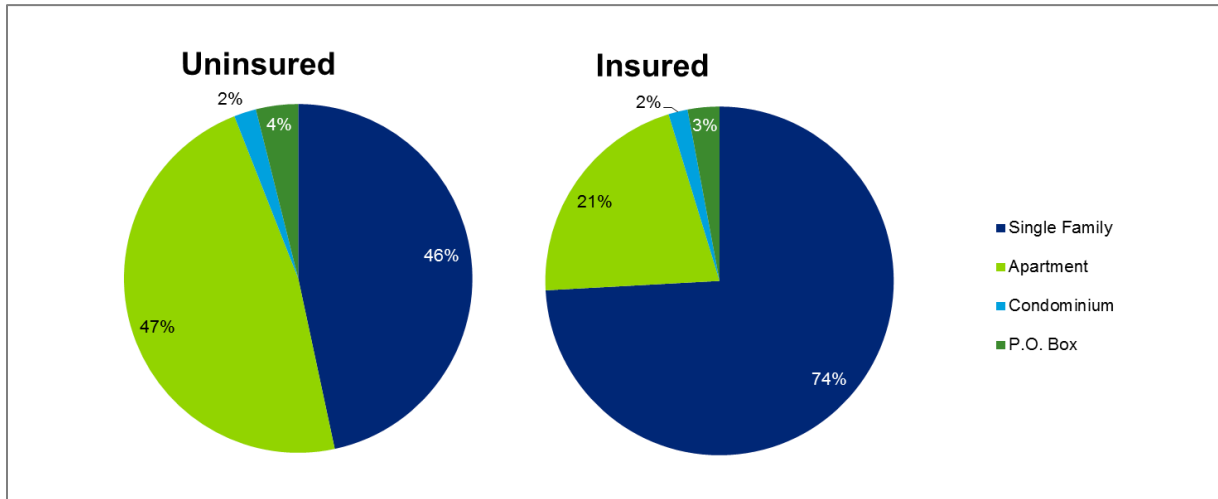


Source: KBM, January 2013

Type of Residence:

74% of the insured population lives in a single family home while only 46% of the uninsured live in the single family home. More uninsured (47%) live in an apartment compared to the insured (21%).

Figure 18. State of New York Population by Coverage Status and Type of Residency



Source: KBM, January 2013

5. Conclusion

While the ACA may impact the New York health care system in unexpected ways, available analyses consistently find that the non-group and small group markets will recognize a reduction in average morbidity as a result of the reforms. The impact on small group populations and morbidity are less than for the non-group market, but still show a potential reduction in average morbidity compared to pre-ACA cost estimates.

When adjusted for New York population estimates and health status, the estimated potential savings are still significant across all scenarios examined. The major drivers of the changes in cost appear to be the number and the health status of those uninsured electing health insurance coverage. In the Adjusted Baseline Scenario, the adjustment to account for the difference in pre-ACA health status between the non-group and small group categories significantly increases the estimated potential savings ACA will generate for the non-group market over current costs.

Because fewer people are assumed to take up insurance in the other three scenarios and the assumption that those that do are generally less healthy than those who elect to go uninsured, the estimated savings is slightly less for each of the three scenarios. However, in all cases the differences in savings estimates are remarkably similar suggesting that ACA implementation will still generate meaningful cost benefits for both the non-group and small group markets in New York.

The key expected impacts of the ACA on the state of New York are summarized below:

Market Populations

- Uninsured population is estimated to reduce by approximately 43.1% to 53.6%, with the majority of the uninsured gaining coverage through Medicaid or the non-group market.
- Non-group market population is estimated to grow by 2.5 to over 10 times the current size.
- When defined as between 2 to 50 employees, the small-group market population may increase approximately 6% to 12%.

Market Costs

- Based on scenarios presented in this analysis, non-group average morbidity is estimated to decrease by 6.8% to 29.1%.
- Based on scenarios presented in this analysis, small group average morbidity is estimated to decrease by 2.5% to 5.2%.

6. Appendix

A. Rating Region Definitions

While close, the definition of rating region as used by The Lewin Group is different from that used by the state of New York. Table 12 below illustrates the differences.

Table 12. Rating Region Definitions

Rating Region	SOA: New York Counties in Rating Region	New York State: New York Counties in Rating Region
Region 1	Albany, Columbia, Delaware, Fulton, Greene, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington	Albany, Columbia, Fulton, Greene, Montgomery, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington
Region 2	Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Livingston, Niagara, Orleans, Wyoming	Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming
Region 3	Dutchess, Orange, Putnam, Sullivan, Ulster, Westchester	Delaware, Dutchess, Orange, Putnam, Sullivan, Ulster
Region 4	Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk	Bronx, Kings, Nassau, New York, Queens, Richmond, Rockland, Suffolk, Westchester
Region 5	Monroe, Ontario, Seneca, Steuben, Tompkins, Wayne, Yates	Livingston, Monroe, Ontario, Seneca, Wayne, Yates
Region 6	Broome, Cayuga, Chemung, Chenango, Cortland, Madison, Onondaga, Schuyler, Tioga	Broome, Cayuga, Chemung, Cortland, Onondaga, Schuyler, Steuben, Tioga, Tompkins
Region 7	Clinton, Essex, Franklin, Hamilton, Herkimer, Oneida, Jefferson, Lewis, Oswego, St. Lawrence	Chenango, Clinton, Essex, Franklin, Hamilton, Herkimer, Jefferson, Lewis, Madison, Oneida, Oswego, Otsego, St. Lawrence

The state of New York will be splitting Region 4 into two regions in break out the counties of Nassau and Suffolk into a separate region.

B. References

¹ Patient Protection and Affordable Care Act (Public Law 111-148) as amended by the Health Care and Education Reconciliation Act of 2010 (P.L. 111-152).

² Society of Actuaries, “Cost of the Newly Insured Under the Affordable Care Act (ACA)”, March 2013.

³ Society of Actuaries, “Cost of the Newly Insured Under the Affordable Care Act (ACA)”, March 2013.

⁴ Health Leaders Inter Study, “Managed Market Surveyor – New York State Profile”, January 2012; Society of Actuaries, “Cost of the Newly Insured Under the Affordable Care Act (ACA)”, February 2013; Urban Institute, “The Coverage and Cost Effects of Implementation of the Affordable Care Act in New York State”, March 2012.

⁵ Urban Institute, “The Coverage and Cost Effects of Implementation of the Affordable Care Act in New York State”, March 2012.

⁶ Urban Institute, “The Coverage and Cost Effects of Implementation of the Affordable Care Act in New York State”, March 2012.

⁷ Urban Institute, “The Coverage and Cost Effects of Implementation of the Affordable Care Act in New York State”, March 2012.

⁸ Patient Protection and Affordable Care Act (Public Law 111-148) as amended by the Health Care and Education Reconciliation Act of 2010 (P.L. 111-152).

⁹ Society of Actuaries, "Cost of the Newly Insured Under the Affordable Care Act (ACA)", March 2013.

¹⁰ Society of Actuaries, "Cost of the Newly Insured Under the Affordable Care Act (ACA)", March 2013.

¹¹ New York Insurance Law Regulation 145 of 11 NYCRR 360.1 – Rules to Assure an Orderly Implementation and Ongoing Operation of Open Enrollment and Community Rating of Individual and Small Group.

¹² New York recently introduced an 8th Rating Region to split Suffolk and Nassau counties out of Region 4, however, this report uses the 7 Rating Regions in effect at the time the analysis was performed.

¹³ Health Leaders Inter Study, "Managed Market Surveyor – New York State Profile", January 2012; Society of Actuaries, "Cost of the Newly Insured Under the Affordable Care Act (ACA)", February 2013; Urban Institute, "The Coverage and Cost Effects of Implementation of the Affordable Care Act in New York State", March 2012.

¹⁴ Urban Institute, "The Coverage and Cost Effects of Implementation of the Affordable Care Act in New York State", March 2012.

¹⁵ Urban Institute, "The Coverage and Cost Effects of Implementation of the Affordable Care Act in New York State", March 2012.

¹⁶ Urban Institute, "The Coverage and Cost Effects of Implementation of the Affordable Care Act in New York State", March 2012, Table 9.

¹⁷ This figure was calculated as $[1 - ((1 - 13.5) * 1.14)]$ based on the estimated 13.5% reduction in non-group premiums from the standard implementation and the 14% increase estimated for Alternative 4 taken from the following statement on page 12 in Urban Institute's March 2012 study: "The other notable difference between this policy option and the standard implementation is the differences in non-group and small group premiums. These differences – a 14 percent higher non-group premium on average and a 1 percent lower small group premium on average – are the same magnitude as those shown in tables 8 and 9."

¹⁸ Urban Institute, "The Coverage and Cost Effects of Implementation of the Affordable Care Act in New York State", March 2012, Table 8.

¹⁹ This figure was calculated as $[1 - ((1 - 0.43) * .99)]$ based on the estimated 4.3% reduction in small group premiums from the standard implementation and the 1% decrease estimated for Alternative 4 taken from the following statement on page 12 in Urban Institute's March 2012 study: "The other notable difference between this policy option and the standard implementation is the differences in non-group and small group premiums. These differences – a 14 percent higher non-group premium on average and a 1 percent lower small group premium on average – are the same magnitude as those shown in tables 8 and 9."

²⁰ Health Leaders Inter Study, "Managed Market Surveyor – New York State Profile", January 2012; Society of Actuaries, "Cost of the Newly Insured Under the Affordable Care Act (ACA)", February 2013; Urban Institute, "The Coverage and Cost Effects of Implementation of the Affordable Care Act in New York State", March 2012.

²¹ Urban Institute, "Uninsured New Yorkers After Full Implementation of the Affordable Care Act: Source of Health Insurance Coverage by Individual Characteristics and Sub-State Geographic Area", January 2013.

²² Society of Actuaries, "Cost of the Newly Insured Under the Affordable Care Act (ACA)", March 2013.